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Notice of Allowability	Application No.	Applicant(s)	
	08/801,464	FUNAKOSHI ET AL.	
	Examiner	Art Unit	
	Clark F. Dexter	3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the response filed on August 27, 2004.
2. ☒ The allowed claim(s) is/are 41,43-45 and 52-57.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Steven Warner on January 27, 2006.

2. The application has been amended as follows:

In the Claims

Claims 40, 42 and 46-51 have been canceled.

Claim 41 has been rewritten as follows:

--41. (Currently Amended) The method according to claim 44 [[40]], wherein the substrate is fixed on a stage, the stage having a groove corresponding to the slice line to cut the substrate.--

Claims 43-45 have been rewritten as follows:

43. (Previously Presented) The method according to claim 44 [[40]], wherein the slice line comprises an electrode layer provided on the substrate ~~constituting the semiconductor element.~~

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44. (Previously Presented) A method of cutting a substrate on which two-dimensionally arranged semiconductor elements are installed, said method comprising the steps of:

detecting a guide line by detecting a guide element provided on the substrate at an area adjacent ~~which interposes a semiconductor element and opposes a slice line provided at a cutting position of the substrate;~~

cutting the substrate along a ~~[[the]]~~ slice line while detecting the guide line; and automatically correcting a cutting position during cutting based on misalignment with the detected guide line.

45. (Currently Amended) The method according to claim 44, ~~wherein~~ further comprising cutting the guide element line is cut after the substrate is cut along the slice line.

Claims 52-57 have been added:

52. (New) The method according to claim 44, wherein the slice line and the guide line are the same line.

53. (New) The method according to claim 44, wherein the slice line and the guide line are parallel to one another.

54. (New) The method according to claim 44, wherein the guide element comprises an electrode layer.

55. (New) The method according to claim 44, further comprising electrically checking a monitor line after the cutting step is completed, the monitor line comprising an electrical conductor and provided on the substrate between the slice line and an adjacent one of the semiconductor elements.

56. (New) The method according to claim 44, wherein the step of detecting is performed using a light source and a photoelectric converting element.

57. (New) The method according to claim 44, wherein the step of cutting is performed using a rotary blade.

In the Specification

Page 1, line 12, "as if in a plane" has been changed to --substantially in a plane--;
line 19, --a-- has been inserted before "digital".

Page 7, line 8, "as if in a plane" has been changed to --substantially in a plane--;
line 17, "as if in a" has been changed to --substantially in a--.

Page 9, line 14, "as if in a plane" has been changed to --substantially in a plane--;
line 26, "as if in a" has been changed to --substantially in a--.

Page 10, line 9, --111-- has been inserted after "cut line";
line 14, --111-- has been inserted after "cut line".

Page 14, line 14, "speaking" has been deleted;
line 16, "as if in a plane" has been changed to --substantially in a plane--.

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Page 16, line 23, "two slice lines" has been changed to --slice line--;

line 24, "are cut" has been changed to --is cut--.

Page 24, line 11, "speaking" has been deleted;

line 23, "speaking" has been deleted.

Page 26, line 23, "as if in a plane" has been changed to --substantially in a plane--.

In the Title

"AND SUBSTRATE CUTTING APPARATUS" has been deleted.

In the Drawings

3. The following changes to the drawings have been approved by the examiner and agreed upon by applicant:

In Figure 6A, numeral 111 will be added to indicate the bold cut line (see attached drawing correction).

In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes

Restriction Requirement

4. The restriction requirement between Groups I-III (see paper no. 7) has been withdrawn. Claims 47-50 have been canceled as being directed to an independent and/or distinct invention that was not previously claimed. Claim 51 has been canceled as being directed to a non-elected invention corresponding to non-elected Group IV.

Remarks

5. Claims 40, 42 and 46 were canceled without prejudice in order to reduce issues and expedite prosecution. Claim 44 was amended to further clarify the claimed invention to more clearly distinguish the claimed invention.

Additional Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The newly-cited prior art disclose inventions which have features similar to the claimed invention. However, these inventions, each taken alone or in combination with the prior art of record, do not teach or fairly suggest the claimed invention.

REASONS FOR ALLOWANCE

7. The following is an examiner's statement of reasons for allowance:

The prior art of record, either taken alone or in combination, does not teach or fairly suggest the claimed invention. For example, the prior art of record does not teach or fairly suggest a method of cutting a substrate on which two-dimensionally arranged semiconductor elements are installed, particularly one where a guide element provided on the substrate at an area adjacent a semiconductor element, and this guide line is detected as claimed, and the substrate is cut while detecting and automatically correcting the cutting position as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clark F. Dexter whose telephone number is (571)272-4505. The examiner can normally be reached on Mondays, Tuesdays, Thursdays and Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N. Shoap can be reached on (571)272-4514. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Clark F. Dexter
Primary Examiner
Art Unit 3724

APPROVED BY DRAFTSMAN

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Approved
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